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[GB/AU]; 47 Boscombe Avenue, City Beach, W.A. 6015 (AU). **BISLEY, Richard** [GB/AU]; 5/3 Thirlmere Road, Mount Lawley, W.A. 6050 (AU).

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(74) Agent: **PATTERSON, William, B.**; Moser, Patterson & Sheridan, L.L.P., 3040 Post Oak Boulevard, Suite 1500, Houston, TX 77056 (US).

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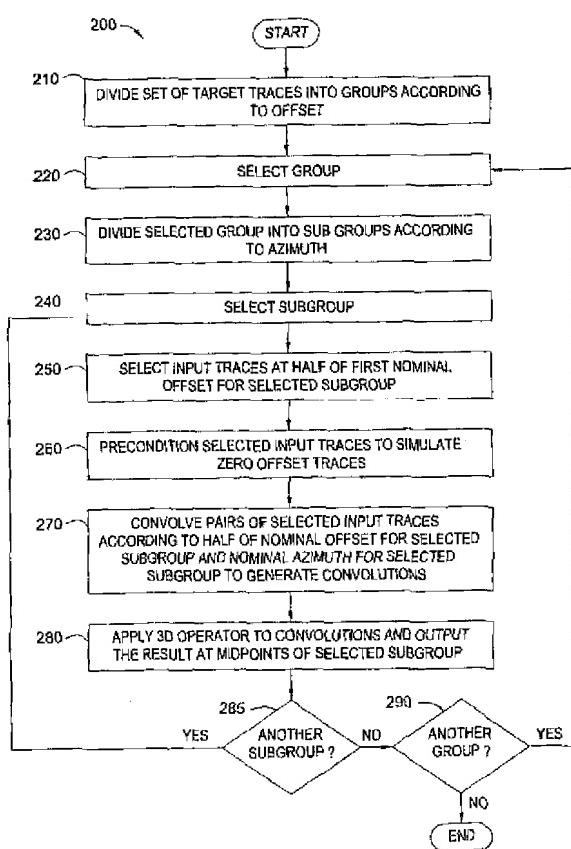
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(71) Applicant (for all designated States except US): **WEST-ERN GECO, L.L.C.** [US/US]; 10001 Richmond Avenue, Houston, TX 77042 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **MOORE, Ian**

(54) Title: FAST 3-D SURFACE MULTIPLE PREDICTION



(57) **Abstract:** A method and apparatus for predicting a plurality of surface multiples for a plurality of traces in a record of seismic data. In one embodiment, the method includes providing a plurality of target traces at a nominal offset and a nominal azimuth; selecting a plurality of pairs of input traces, wherein the midpoints of the input traces in each pair are separated by half the nominal offset and the azimuth of a line connecting the midpoints of the input traces in each pair is equal to the nominal azimuth; convolving the selected pairs of input traces to generate a plurality of convolutions; and applying a three dimensional operator to the convolutions.

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